WE CLAIM:

1. A canister for storing, transporting, or disposing of spent nuclear fuel, said canister comprising a canister shell, a top shield plug disposed within said canister, and a leak-tight closure arrangement, said closure arrangement comprising:

a shear ring forming a containment boundary of said canister, and weld means for welding the shear ring to said canister shell and to said top shield plug.

2. The canister of claim 1 wherein said shear ring comprises a plurality of pieces welded together.

3. The canister of claim 1 wherein said shear ring comprises three pieces welded together.

4. The canister of claim 1 further comprising an outer seal plate disposed above said shear ring and welded to said shield plug and said canister.

5. The canister of claim 1, wherein said shear ring is used as the load bearing member and the welds are seal welds.

6. The canister of claim 1, wherein mating surface of the shear ring and the canister shell are tapered.

7. A method of providing a leaktight closure for a canister comprising a canister shell and a top shield plug, said method comprising:

welding a shear ring to said canister shell and to said top shield plug, supplying a test gas to the canister, welding an outer seal plate to the canister so as to seal the canister and create a space between the seal plate and the shield plug, sampling the air between the shield plug and the seal plate to test internal sealing of the canister, supplying a test gas to the space between the seal plate and shield plug, and testing the outer seal plate for leakage.

8. A method according to claim 7, wherein supplying a test gas to the canister comprises removing a pipe plug in the canister, filling the canister with helium and reinstalling the pipe plug after said filling.

9. A method according to claim 7 wherein a leak test adapter is installed in the seal plate after welding of the seal plate and a mass spectrometer is connected to the adapter to sample the air between the shield plug and the seal plate.

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